

METHODS AND COMPOSITIONS FOR DIAGNOSING AND TREATING ARTHRITIC DISORDERS
AND REGULATING BONE MASS

ABSTRACT OF THE DISCLOSURE

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The present invention relates to improved diagnostic methods for early detection of a risk for developing an arthritic disorder in humans, and screening assays for therapeutic agents useful in the treatment of arthritic disorders, by comparing the levels of one or more indicators of altered mitochondrial function. Indicators of altered 10 mitochondrial function include enzymes such as mitochondrial enzymes and ATP biosynthesis factors. Other indicators of altered mitochondrial function include mitochondrial mass, mitochondrial number and mitochondrial DNA content, cellular responses to elevated intracellular calcium and to apoptogens, and free radical production. Methods of treating, and of stratifying, human patients as such methods relate to 15 disclosed indicators of altered mitochondrial function are also provided.

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